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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,561	09/27/2001	Atsunari Tsuda	110373	2259

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EXAMINER

ABDULSELAM, ABBAS I

ART UNIT PAPER NUMBER

2674

DATE MAILED: 06/04/2004

10

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/937,561

Applicant(s)

TSUDA, ATSUNARI

Examiner

Abbas I Abdulsalam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quanrud (USPN 6140983) in view of Ito (USPN 6677991).

Regarding claims 1-4 and 7-9, Quanrud teaches a display matrix (12) including a plurality of display elements (14) each of which includes a pixel (16) and a display circuit (18), which is electrically connected to the pixel and controls the operation of pixel (16). See Fig 1. Quanrud also teaches peripheral control circuits for controlling read and write operations to the memory cells. Quanrud further teaches a three bit planes that can be stored in a variety of time modulation schemes to achieve the eight levels of grayscale in the color of a single illumination source. Furthermore, Quanrud teaches the use of two or more memory cells per pixel in a display matrix and discloses the use of the display matrix behaving like a memory that is addressable, readable and writable. See. Fig 8(B-C) and col. 19, lines 29-35. However, Quanrud does not

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disclose a timing detection that detects timing to drive the pixels in the peripheral region of the display panel, and a display controller such that the display controller outputs a signal to the driver at the timing detected by the timing detection device to display the same color at pixels in the peripheral region regardless of color indicated for the pixels by externally supplied display signal.

Ito on the other teaches color data interpolation (14b) resulting from an input/output adjusting circuitry (14a). See Fig. 1. Ito discloses that the input/output adjusting circuitry (14a) includes a timing generation (140a) as well as a timing adjustment (140b) such that the timing generation (140a) generates in accordance with a control signal CONT output from the controller, drive signal for the CCD image sensor (1a) and various control signals for the timing adjustment (140b). See col. 4, lines 1-13. Ito teaches that the timing adjustment (140b) processes the input color data, causing the three primary colors RGB to appear at the same time by handling two consecutive lines of data input as a single line, in order that only the necessary lines are used for display. See col. 4, lines 27-54, Figs 1-2 and abstract

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify Quanrud's display system to adapt Ito's input/output adjusting circuit (14a) which includes timing generation (140a) and timing adjustment (140b) resulting color data interpolation (14b) before display as shown on Fig. 1. One would have been motivated in view of the suggestion in Ito that input/output adjusting circuit (14a) as configured in Fig. 1 serves the same purpose as the desired display controller. The use of input/output adjusting circuit (14a) helps a display system designed for selective operation as taught by Ito.

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In addition, Ito teaches a sampling section 14A including a shift register, and stores one line of color data subjected to preprocessing and having eight bits for a single pixel in the shift register 140A.

Regarding claim 5, Quanrud teaches pixels used in liquid crystal displays (col. 12, lines 52-55).

Regarding claim 6, Quanrud teaches a digital representation of a pixel with respect to multiple colors. See col. 3, lines 2-5.

Regarding claim 10, Quanrud teaches the use of display matrix with a writable memory configuration. See col. 19, lines 29-35.

Regarding claim 11, Ito teaches color data are fed from the still picture processing 16 to the display (18), (col. 6, lines 52-53). Ito teaches that the SEL signal also fed to the display for signal selection (col. 3, lines 65-67).

Regarding claim 12, Ito teaches a mode selection (12) selecting a mode in which the display apparatus (10) should operate and input by the user (col. 3, lines 60-63).

Regarding claim 13, Ito teaches Color data area, with respect read out of the line memories (144C, 146C) while color data are written to the line memories (140C, 142C). See Fig. 4 and col. 8, lines 47-49.

Regarding claim 14, Ito teaches timing generation (140a) generates in accordance with a control signal CONT output from the controller, and discloses that the timing adjustment (140b) processes the input color data before display. See col. 4, lines 9-53 and Figs. 1-2.

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Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

4. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Abbas Abduselam** whose telephone number is **(703) 305-8591**. The examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

Any response to this action should be mailed to:

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Commissioner of patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand delivered responses should be brought to Crystal Park II, Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

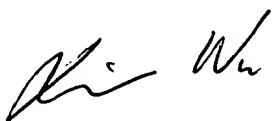
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 customer Service office whose telephone number is (703) 306-0377.

Abbas Abdulsalam

Examiner

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May 27, 2004


XIAO WU
PRIMARY EXAMINER